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TITLE: THERMOSETTING COMPOSITION

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INT-CL (IPC): C08G 59/30; C08G 59/42; C08G 59/68; C08G 75/08

ABSTRACT:

PURPOSE: To obtain the subject composition excellent in chemical and physical properties and weather resistance and useful as a coating material, etc., by mixing a compound containing epoxy groups, etc., a compound containing carboxyl groups, etc., and a specified latent heat-containing acid catalyst.

CONSTITUTION: An objective composition containing, as the essential components, (A) a compound containing two or more epoxy groups in the molecule, e.g. a bisphenol-type epoxy resin and/or a compound containing two or more thirane groups in the molecule, e.g. an alicyclic episulfide resin, (B) a compound having two or more groups selected from one or more kinds of groups among carboxyl group, e.g. contained in oxalic acid, carboxylic acid anhydride group, e.g. contained in pyromellitic acid and hetero-acid anhydride group obtained from a carboxylic acid and another acid and (C) a latent heat-containing acid catalyst composed of one or more compounds selected from sulfonic acid esters and phosphoric acid esters and showing an activity at >50°C. In addition, the ratio of the component (B) used is preferably 0.1-1.5 equivalent on functional group base based on the component (A).

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Thermosetting compsn. for paint ink adhesive or mouldings - contains cpd. contg. epoxy and/or thirane gps. cpd. contg. carboxy or anhydride gp. and thermal latent acid catalyst

Patent Assignee: NIPPON OILS & FATS CO LTD (NIOF)

Number of Countries: 001 Number of Patents: 001

Patent Family:

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JP 4202523	A	19920723	JP 90339521	A	19901130	199236 B

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Patent Details:

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JP 4202523	A	7	C08G-059/30	

Abstract (Basic): JP 4202523 A

Compsn. contains (A) cpd. contg. at least two epoxy and/or thioirane gps. in one mol., (B) cpd. contg. at least two gps. selected from carboxyl, carboxylic acid anhydride gp. and gp. of hetero-acid anhydride obtd. from carboxylic acid and other acids and (C) thermal latent acid catalyst showing an activity at higher than 50 deg.C.

USE/ADVANTAGE - The compsn. is suitable for preparing paint, ink, adhesive, mouldings, etc.. The compsn. gives cured prod. having superior chemical and physical performances and weather resistance. It has long pot life, the same as that of a compsn. with same ingredients but without catalyst. In an example, in pts. wt. acrylic acid 64, MMA 232, n-butylacrylate 196 and AIBN 20 were polymerised in MIBK 488 at 100 deg.C for 2.5 hrs., so that a soln. polycarboxylic acid resin having Mn 2,570, acid value 100 kgKOH/g and solid content 50.5% was obtd. to a soln. of K-t-butoxide 4.9 dissolved in 2-propanol 315 was added another soln. of p-toluenesulphonyl chloride 53.4 dissolved in diethylether 300 over 30 min., reacted under ice cooling for 1 hr. and further at room temp. for 1 hr. By washing with water, drying and removing solvents, p-toluenesulphonic acid (1-methylethyl) 40 was obtd.. The thermal latent acid catalyst was diluted by xylene 238 so as to have 10 wt.% concn. Thermosetting resin compsn. for paint was obtd. by compounding, pts. wt., polycarboxylic acid resin 100, 'UCCs ERL-4221' (RTM: epoxy hardener) 11.9, xylene soln. of the thermal latent acid catalyst 46.3 and xylene

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Title Terms: THERMOSETTING; COMPOSITION; PAINT; INK; ADHESIVE; MOULD; CONTAIN; COMPOUND; CONTAIN; EPOXY; THIIRANE; GROUP; COMPOUND; CONTAIN; CARBOXY; ANHYDRIDE; GROUP; THERMAL; LATENT; ACID; CATALYST

Derwent Class: A21; A81; A82; G02; G03

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